



THE CENTENNIAL CALENDAR



FAMU-FSU
College of Engineering

TEAM 18

Workforce
Development

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Sponsor: Advanced Manufacturing Training Center at Tallahassee Community College

Instructors: Dr. Shayne McConomy, Dr. Chiang Shih

Advisor: Dr. Dorr Campbell

Project Scope

Produce a mechanically-powered, aesthetically-pleasing calendar that accurately displays the date for **100 years** and requires no maintenance.

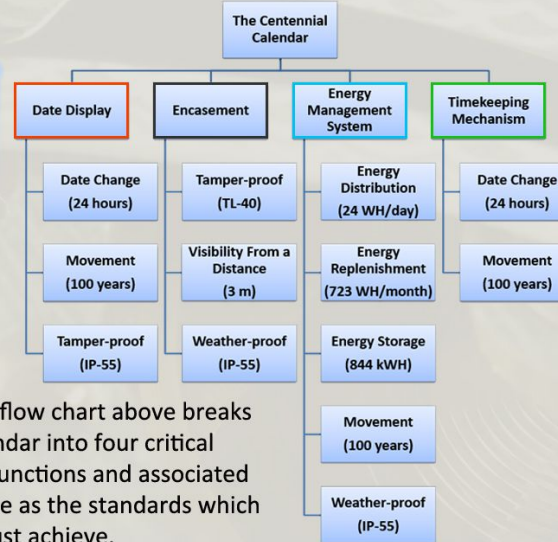
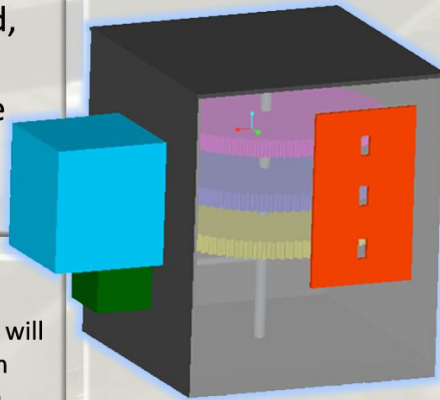
Background

In 2020, Tallahassee Community College (TCC) will be burying a time capsule which will remain unopened for 100 years. The faculty of the Advanced Manufacturing Training Center (AMTC) at TCC have asked Team 18 to design and manufacture an all-mechanical calendar which will keep track of the date until the time capsule is to be opened.

Objectives

- Create a mechanism that is powered solely through mechanical processes
- Have mechanism account for leap years and non-leap years
- Use cost-effective materials without sacrificing quality
- Utilize energy from the Florida environment
- Create a final product that is appealing to the eye

Preliminary Design Concept

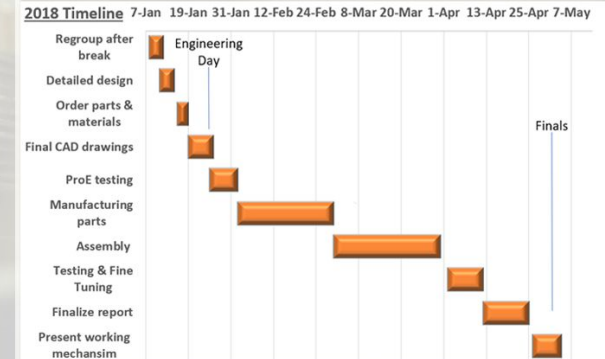


The functional decomposition flow chart above breaks down The Centennial Calendar into four critical subsystems, along with their functions and associated metrics. These metrics will serve as the standards which the prototype must achieve.

Project Difficulties

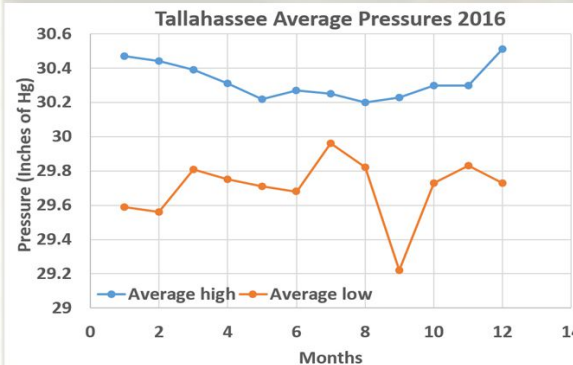
- Wear on mechanical components
- Lack of maintenance on the device
- Inconsistency of power generation using environmental effects
- Accuracy of the timekeeping mechanism over 100 years
- Exposure to the Florida elements

Future Work



Reaching these important milestones will enable the team to stay on track and finish The Centennial Calendar before graduation day.

Environmental Influences in Tallahassee



Utilizing a material that has a high coefficient of expansion when exposed to changes in pressure or temperature, such as mercury, energy provided by the environment can be converted into mechanical energy by allowing this fluid to drive a piston up and down.

Acknowledgments

The members of Team 18 would like to personally thank TCC and the faculty of the AMTC for allowing us to tackle this project. We would also like to thank our instructors at the C.O.E. for providing guidance to allow us to be where we are today.